



**UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office**

Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231

HC

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
-----------------	-------------	----------------------	---------------------

09/035,944 03/06/98 FREED

J 027575-152

021839 LM02/0426  
BURNS DOANE SWECKER & MATHIS  
P O BOX 1404  
ALEXANDRIA VA 22313-1404

EXAMINER

WOLDETATIOS, Y

ART UNIT

PAPER NUMBER

2749

DATE MAILED:

04/26/00

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.  
**09/035,944**

Applicant(s)  
**Freed**

Examiner  
**Yemane Woldetatos**

Group Art Unit  
**2746**



☐ Responsive to communication(s) filed on \_\_\_\_\_.

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 1-21 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 1-21 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been  
☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_.

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2 and 4

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

Art Unit: 2749

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rich et al. (5758271) in view of Peterzell et al. (5930692).

Claims 1 and 15. Rich teaches an apparatus for improving the dynamic range of a receiver (col. 9 lines 22-28), comprising:

a processor for computing an error rate of a received signal (col. 6 lines 27-32);

a low noise amplifier (col. 3 lines 46-59), wherein the gain of the radio receiver is adjusted

responsive to the bit error rate (col. 6 lines 27-39). Rich fails to teach a low noise amplifier with an adjustable input intercept point. However, Peterzell teaches an adjustable input intercept point. <sup>col. 5/lines 19-45</sup> Therefore, it would have been obvious to one of ordinary skill in the art to modify Rich's teaching by Peterzell's in order to have a variable gain amplifier.

Claims 2, 9 and 16. Rich teaches the apparatus of claim 1, wherein the gain of the receiver adjusted responsive to the quality of the received signal quality (col. 5 lines 60-62). Rich fails to teach a low noise amplifier with an adjustable input intercept point. However, Peterzell teaches

Art Unit: 2749

an adjustable input intercept point. Therefore, it would have been obvious to one of ordinary skill in the art to modify Rich's teaching by Peterzell's in order to have a variable gain amplifier.

Claims 3-5, 10-12 and 17-19. Rich teaches the limitations in claims 3-5 (col. 8 lines 31-42).

Claims 6, 13 and 20. Rich fails to teach the apparatus of claim 1, wherein the computed error rate is a frame erasure rate. However, official notice is taken that frame erasure rate is well known in the art. Therefore, it would have been obvious to one of ordinary skill in the art to apply frame erasure rate, in Riche's teaching in order to enhance means to estimate received signal quality.

Claims 7, 14 and 21. Rich teaches the apparatus of claim 1, wherein a gain of the low noise amplifier is adjusted based on a received signal strength (col. 10 lines 43-45).

Claim 8. Rich teaches a system for receiving and transmitting signals, comprising:  
a transmitting path for processing signals for transmission (Fig. 1 item 102); and  
a receiving path for processing received signals (Fig. 1 item 108), the receiving path including an amplifier and a processor (Fig. 1 items 108 and 114) for computing an error rate of a received signal, wherein the gain of the amplifier is adjusted depending on the computed error rate (col. 6 lines 27-39). Rich fails to teach a low noise amplifier with an adjustable input intercept point. However, Peterzell teaches an adjustable input intercept point. Therefore, it would have been obvious to one of ordinary skill in the art to modify Rich's teaching by Peterzell's in order to enhance receiver's dynamic range.

Art Unit: 2749

*Conclusion*

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hutchison, IV et al. (5722061), Lyall, Jr. et al. (5697081) and Abramsky et al. (5907798) teach system and method of intermodulation reduction in a radio communication systems. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yemane Woldetatos whose telephone number is (703) 308-9596. The examiner can normally be reached on Monday to Thursday from 8:00 am to 5:30 pm). The examiner can also be reached on every alternate Fridays.


If attempts to reach the examiner by telephone are unsuccessful, the examiners supervisor, Daniel Hunter, can be reached on (703) 308-6732. The fax phone number for the organization where the application or proceedings is assigned is (703) 308-6306 or (703) 308-6296.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

Yemane Woldetatos



4-19-00



DANIEL S. HUNTER  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2700